SEQUENCE LISTING

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Falco, Saverio Carl
Sakai, Hajime
Weng, Zude
Hu, Xu

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Ala Asp Lys Asp Cys Thr Glu Ser Ile Tyr Pro Val Ala Asp Ala Thr
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Thr Phe Phe Thr Asp Leu His Tyr Ile Leu Arg Val Thr Ala Ala Gly
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Asn Thr Arg Thr Val Cys His Asn Arg Leu Asn Leu Leu Glu His Lys
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Phe Lys Phe His Leu Met Leu Asn Ala Asp Arg Glu Phe Leu Ala Gln
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Lys Thr Ala Pro His Arg Asp Phe Tyr Asn Val Arg Lys Val Asp Thr
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His Val His His Ser Ala Cys Met Asn Gln Lys His Leu Leu Arg Phe
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Asp Gly Thr Tyr Met Thr Leu Lys Glu Val Phe Glu Ser Leu Asp Leu
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Thr Gly Tyr Asp Leu Asn Val Asp Leu Leu Asp Val His Ala Asp Lys
180 185 190

Ser Thr Phe His Arg Phe Asp Lys Phe Asn Leu Lys Tyr Asn Pro Cys
195 200 205

Gly Gln Ser Arg Leu Arg Glu Ile Phe Leu Lys Gln Asp Asn Leu Ile
210 215 220

Gln Gly Arg Phe Leu Ala Glu Leu Thr Lys Gln Val Phe Ser Asp Leu
225 230 235 240

Ser Ala Ser Lys Tyr Gln Met Ala Glu Tyr Arg Ile Ser Ile Tyr Gly
245 250 255

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260 265 270

Glu Leu His Ser Gly Asn Val Val Trp Leu Val Gln Ile Pro Arg Leu
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Tyr Asn Val Tyr Lys Glu Met Gly Ile Val Thr Ser Phe Gln Asn Leu

290 295 300

Leu Asp Asn Ile Phe Val Pro Leu Phe Glu Val Thr Ile Asp Pro Ala
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Glu Ser Lys Gly Met Thr Thr Ile Lys Phe Arg Pro His Ala Gly Glu
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Ile Ser His Gly Ile Asn Leu Arg Lys Ser Pro Val Leu Gln Tyr Leu
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Tyr Tyr Leu Gly Gln Ile Gly Leu Ala Met Ser Pro Leu Ser Asn Asn
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Ser Leu Phe Leu Asp Tyr His Arg Asn Pro Phe Pro Thr Phe Phe Gln
450 455 460

Arg Gly Leu Asn Val Ser Leu Ser Thr Asp Asp Pro Leu Gln Ile His
465 470 475 480

Leu Thr Lys Glu Pro Leu Val Glu Glu Tyr Ser Ile Ala Ala Ser Leu
485 490 495

Trp Lys Leu Ser Ser Cys Asp Leu Cys Glu Ile Ala Arg Asn Ser Val
500 505 510

Tyr Gln Ser Gly Phe Ser His Ala Leu Lys Ala His Trp Ile Gly Lys
515 520 525

Asn Tyr Phe Lys Arg Gly Pro Ala Gly Asn Asp Ile His Arg Thr Asn
530 535 540

Val Pro His Ile Arg Val Gln Phe Arg Glu Met Ile Trp Arg Asn Glu
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565 570 575

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<212> DNA
<213> Oryza sativa

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<213> Oryza sativa

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Arg Asp Phe Tyr Asn Val Arg Lys Val Asp Thr His Val His His Ser
35 40 45

Ala Cys Met Asn Gln Lys His Leu Leu Arg Phe Ile Lys Ser Lys Leu
50 55 60

Arg Lys Glu Pro Asp Glu Val Val Ile Phe Arg Asp Gly Thr Tyr Leu
65 70 75 80

Thr Leu Lys Glu Val Phe Glu Ser Leu Asp Leu Thr Gly Tyr Asp Leu
85 90 95

Asn Val Asp Leu Leu Asp Val His Ala Asp Lys Ser Thr Phe His Arg
100 105 110

Phe Asp Lys Phe Asn Leu Lys Tyr Asn Pro Cys Gly Gln Ser Arg Leu

115 120 125

Arg Glu Ile Phe Leu Lys Gln Asp Asn Leu Ile Gln Gly Arg Phe Leu
130 135 140

Ala Glu Leu Thr Lys Glu Val Phe Ser Asp Leu Glu Ala Ser Lys Tyr
145 150 155 160

Gln Met Ala Glu Tyr Arg Ile Ser Ile Tyr Gly Arg Lys Lys Ser Glu
165 170 175

Trp Asp Gln Met Ala Ser Trp Ile Val Asn Asn Glu Leu Tyr Ser Glu
180 185 190

Asn Val Val Trp Leu Ile Gln Ile Pro Arg Ile Tyr Asn Val Tyr Arg
195 200 205

Glu Met Gly Thr Ile Asn Ser Phe Gln Asn Leu Leu Asp Asn Ile Phe
210 215 220

Leu Pro Leu Phe Glu Val Thr Val Asp Pro Ala Ser His Pro Gln Leu
225 230 235 240

His Val Phe Leu Gln Gln Val Val Gly Leu Asp Leu Val Asp Asp Glu
245 250 255

Ser Lys Pro Glu Arg Arg Pro Thr Lys His Met Pro Thr Pro Glu Gln
260 265 270

Trp Thr Asn Val Phe Asn Pro Ala Tyr Ala Tyr Tyr Val Tyr Tyr Cys
275 280 285

Tyr Ala Asn Leu Tyr Thr Leu Asn Lys Leu Arg Glu Ser Lys Gly Met
290 295 300

Thr Thr Ile Lys Leu Arg Pro His Cys Gly Glu Ala Gly Asp Ile Asp
305 310 315 320

His Leu Ala Ala Ala Phe Leu Thr Ser His Asn Ile Ala His Gly Val
325 330 335

Asn Leu Lys Lys Ser Pro Val Leu Gln Tyr Leu Tyr Tyr Leu Ala Gln
340 345 350

Ile Gly Leu Ala Met Ser Pro Leu Ser Asn Asn Ser Met Phe Ile Asp
355 360 365

Tyr His Arg Asn Pro Phe Pro Thr Phe Phe Leu Arg Gly Leu Asn Val
370 375 380

Ser Leu Ser Thr Asp Asp Pro Leu Gln Ile His Leu Thr Lys Glu Pro
385 390 395 400

Leu Val Glu Glu Tyr Ser Ile Ala Ala Ser Leu Trp Lys Leu Ser Ser
405 410 415

Cys Asp Leu Cys Glu Ile Ala Arg Asn Ser Val Tyr Gln Ser Gly Phe
420 425 430

Ser His Arg Leu Lys Ser His Trp Ile Gly Arg Asn Tyr Tyr Lys Arg
435 440 445

Gly His Asp Gly Asn Asp Ile His Gln Thr Asn Val Pro His Ile Arg
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Lys Ser Ala Pro His Arg Asp Phe Tyr Asn Val Arg Lys Val Asp Thr
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His Val His His Ser Ala Cys Met Asn Gln Lys His Leu Leu Arg Phe
35 40 45

Ile Lys Ser Lys Leu Arg Lys Glu Pro Asp Glu Val Val Ile Phe Arg
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Asp Gly Thr Tyr Leu Thr Leu Glu Glu Val Phe Lys Ser Leu Asp Leu
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35 40 45

Arg Leu Tyr Asn Val Tyr Gln Xaa Lys Trp Gly Leu Leu His His Phe
50 55 60

Lys Asn Phe Leu Gly Gln His Phe Pro Pro Pro Val Trp Arg Leu Leu
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Xaa Ser Ser Ser His Pro Ala Leu His Val Phe Pro Lys Ala Gly Leu
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35 40 45

Asn Pro Phe Thr Tyr Val Pro Glu Pro Lys Ser Glu His Val Phe Gln
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Ser Ile Tyr Pro Val Ala Asp Ala Thr Thr Phe Phe Thr Asp Leu His
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Tyr Ile Leu Arg Val Thr Ala Ala Gly Asn Thr Arg Thr Val Cys His
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115 120 125

Asn Ala Asp Arg Glu Phe Leu Ala Gln Lys Thr Ala Pro His Arg Asp
130 135 140

Phe Tyr Asn Val Arg Lys Val Asp Thr His Val His His Ser Ala Cys
145 150 155 160

Met Asn Gln Lys His Leu Leu Arg Phe Ile Lys Ser Lys Leu Arg Lys
165 170 175

Glu Pro Asp Glu Val Val Ile Phe Arg Asp Gly Thr Tyr Met Thr Leu
180 185 190

Lys Glu Val Phe Glu Ser Leu Asp Leu Thr Gly Tyr Asp Leu Asn Val
195 200 205

Asp Leu Leu Asp Val His Ala Asp Lys Ser Thr Phe His Arg Phe Asp
210 215 220

Lys Phe Asn Leu Lys Tyr Asn Pro Cys Gly Gln Ser Arg Leu Arg Glu
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Ile Phe Leu Lys Gln Asp Asn Leu Ile Gln Gly Arg Phe Leu Ala Glu
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Leu Thr Lys Gln Val Phe Ser Asp Leu Ser Ala Ser Lys Tyr Gln Met
260 265 270

Ala Glu Tyr Arg Ile Ser Ile Tyr Gly Arg Lys Gln Ser Glu Trp Asp
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Gln Leu Ala Ser Trp Ile Val Asn Asn Glu Leu His Ser Gly Asn Val
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Val Trp Leu Val Gln Ile Pro Arg Leu Tyr Asn Val Tyr Lys Glu Met
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Phe Leu Lys Gln Val Val Gly Leu Asp Leu Val Asp Asp Glu Ser Lys
355 360 365

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Ser Thr Asp Asp Pro Leu Gln Ile His Leu Thr Lys Glu Pro Leu Val
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Glu Glu Tyr Ser Ile Ala Ala Ser Leu Trp Lys Leu Ser Ser Cys Asp
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Leu Cys Glu Ile Ala Arg Asn Ser Val Tyr Gln Ser Gly Phe Ser His
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275 280 285

Leu Leu Asp Val His Ala Asp Lys Ser Thr Phe His Arg Phe Asp Lys
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Phe Leu Lys Gln Asp Asn Leu Ile Gln Gly Arg Phe Leu Ala Glu Leu
325 330 335

Thr Lys Glu Val Phe Ser Asp Leu Glu Ala Ser Lys Tyr Gln Met Ala
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Glu Tyr Arg Ile Ser Ile Tyr Gly Arg Lys Lys Ser Glu Trp Asp Gln
355 360 365

Met Ala Ser Trp Ile Val Asn Asn Glu Leu Tyr Ser Glu Asn Val Val
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Trp Leu Ile Gln Ile Pro Arg Ile Tyr Asn Val Tyr Arg Glu Met Gly
385 390 395 400

Thr Ile Asn Ser Phe Gln Asn Leu Leu Asp Asn Ile Phe Leu Pro Leu
405 410 415

Phe Glu Val Thr Val Asp Pro Ala Ser His Pro Gln Leu His Val Phe
420 425 430

Leu Gln Gln Val Val Gly Leu Asp Leu Val Asp Asp Glu Ser Lys Pro
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Glu Arg Arg Pro Thr Lys His Met Pro Thr Pro Glu Gln Trp Thr Asn
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Val Phe Asn Pro Ala Tyr Ala Tyr Tyr Val Tyr Tyr Cys Tyr Ala Asn
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485 490 495

Lys Leu Arg Pro His Cys Gly Glu Ala Gly Asp Ile Asp His Leu Ala
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Ala Ala Phe Leu Thr Ser His Asn Ile Ala His Gly Val Asn Leu Lys
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Lys Ser Pro Val Leu Gln Tyr Leu Tyr Tyr Leu Ala Gln Ile Gly Leu
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Ala Met Ser Pro Leu Ser Asn Asn Ser Leu Phe Ile Asp Tyr His Arg
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Asn Pro Phe Pro Thr Phe Phe Leu Arg Gly Leu Asn Val Ser Leu Ser

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Cys Glu Ile Ala Arg Asn Ser Val Tyr Gln Ser Gly Phe Ser His Arg
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Leu Lys Ser His Trp Ile Gly Arg Asn Tyr Tyr Lys Arg Gly His Asp
625                 630                 635                 640

Gly Asn Asp Ile His Gln Thr Asn Val Pro His Ile Arg Ile Glu Phe
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Val Asp Ile Pro Glu Glu Ile Asp Arg
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cgtcggagcc tccgtcgtgg ccgtgtcggc gtactacatg caccgcaaga cgctggcgca  300
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atcgccgccg gcccacgcga agaagcgccg gggcagctcc aggaagcgcc gcaacggcgg  420
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<210> 18
<211> 595
<212> PRT
<213> Glycine max

<400> 18
Leu Asp Thr Thr Tyr Leu His Ala Asn Gly Thr Gly Gly Pro Glu Gly
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Lys Ile Pro Phe Glu Pro Leu Pro Asn His Val Asn Ala Asn Gly Glu
20 25 30

Gln Met Ala Ile Thr Pro Ser Met Ile Arg Ser His Ser Val Ser Gly
35 40 45

Asp Leu His Gly Val Gln Pro Asp Pro Ile Ala Ala Asp Ile Leu Arg
50 55 60

Lys Glu Pro Glu His Glu Thr Phe Thr Arg Leu Arg Ile Thr Pro Leu
65 70 75 80

Glu Ala Pro Ser Pro Asp Glu Ile Glu Ala Tyr Val Val Leu Gln Glu
85 90 95

Cys Leu Glu Met Arg Lys Arg Tyr Val Phe Arg Glu Ala Val Ala Pro
100 105 110

Trp Asp Lys Glu Val Ile Ser Asp Pro Ser Thr Pro Lys Pro Asn Pro
115 120 125

Asp Pro Phe Leu Tyr Ile Pro Glu Gly Asn Ser Asp His Tyr Phe Glu
130 135 140

Met Gln Asp Gly Val Ile Arg Val Tyr Pro Asp Arg Asp Ala Lys Glu
145 150 155 160

Glu Leu Phe Pro Val Ala Asp Ala Thr Thr Phe Phe Thr Asp Leu His
165 170 175

His Leu Leu Arg Val Ile Ala Ala Gly Asn Ile Arg Thr Leu Cys His
180 185 190

His Arg Leu Asn Leu Leu Glu Gln Lys Phe Asn Leu His Leu Met Leu
195 200 205

Asn Ala Asp Arg Glu Phe Leu Ala Gln Lys Ser Ala Pro His Arg Asp
210 215 220

Phe Tyr Asn Val Arg Lys Val Asp Thr His Val His His Ser Ala Cys
225 230 235 240

Met Asn Gln Lys His Leu Leu Arg Phe Ile Lys Ser Lys Leu Arg Lys
245 250 255

Glu Pro Asp Glu Val Val Ile Phe Arg Asp Gly Thr Tyr Leu Thr Leu
260 265 270

Glu Glu Val Phe Lys Ser Leu Asp Leu Ser Gly Tyr Asp Leu Asn Val
275 280 285

Asp Leu Leu Asp Val His Ala Asp Lys Ser Thr Phe His Arg Phe Asp
290 295 300

Lys Phe Asn Leu Lys Tyr Asn Pro Cys Gly Gln Ser Arg Leu Arg Glu
305 310 315 320

Ile Phe Leu Lys Gln Asp Asn Leu Ile Gln Gly Arg Phe Leu Gly Glu
325 330 335

Leu Thr Lys Gln Val Phe Ser Asp Leu Ala Ala Ser Lys Tyr Gln Met
340 345 350

Ala Glu Tyr Arg Ile Ser Ile Tyr Gly Arg Lys Gln Ser Glu Trp Asp
355 360 365

Gln Leu Ala Ser Trp Ile Val Asn Asn Asp Leu Tyr Ser Glu Asn Val
370 375 380

Val Trp Leu Ile Gln Leu Pro Arg Leu Tyr Asn Val Tyr Lys Glu Met
385 390 395 400

Gly Ile Val Thr Ser Phe Gln Asn Met Leu Asp Asn Ile Phe Ile Pro
405 410 415

Leu Phe Glu Val Thr Val Asn Pro Asp Ser His Pro Gln Leu His Val
420 425 430

Phe Leu Lys Gln Val Val Gly Leu Asp Leu Val Asp Asp Glu Ser Lys
435 440 445

Pro Glu Arg Arg Pro Thr Lys His Met Pro Thr Pro Glu Gln Trp Thr
450 455 460

Asn Val Phe Asn Pro Ala Phe Ser Tyr Tyr Val Tyr Tyr Cys Tyr Ala
465 470 475 480

Asn Leu Tyr Thr Leu Asn Lys Leu Arg Glu Ser Lys Gly Met Thr Thr
485 490 495

Ile Lys Phe Arg Pro His Ser Gly Glu Ala Gly Asp Ile Asp His Leu
500 505 510

Ala Ala Thr Phe Leu Thr Ala His Asn Ile Ala His Gly Ile Asn Leu
515 520 525

Lys Lys Ser Pro Val Leu Gln Tyr Leu Tyr Tyr Leu Ala Gln Ile Gly
530 535 540

Leu Ala Met Ser Pro Leu Ser Asn Asn Ser Leu Phe Leu Asp Tyr His

```
545                 550                 555                 560

Arg Asn Pro Phe Pro Met Phe Phe Leu Arg Gly Leu Asn Val Ser Leu
                565                 570                 575

Ser Thr Asp Asp Pro Leu Gln Ile His Leu Thr Lys Glu Pro Leu Val
            580                 585                 590

Glu Glu Tyr
        595
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<210> 19
<211> 1988
<212> DNA
<213> Triticum aestivum

<400> 19

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tcaaaaagga tttatcctgt ttgctgatgc acgagacctt tttcaccgac ttacattatg  180
ttctccgggt gactgccgcg gggaacacaa gaactgtctg ccataaccga ttgaatcttc  240
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aaactgcacc acatcgtgat ttttacaatg ttaggaaggt cgacactcat gttcaccact  360
cagcatgcat gaatcagaaa catttgctga gattcatcaa gtccaaactg agaaaagaac  420
ctgatgaggt tgtcattttc agagatggta catatatgac tttgaaggag gtttttgaga  480
gcttggactt aactgggtat gacttgaatg ttgatttgct agatgtccat gcggacaaaa  540
gtacgtttca tcgttttgac aaattcaacc ttaaatacaa tccatgtgga caaagtaggc  600
tacgggagat tttccttaaa caggacaatc ttattcaagg acgatttctt gctgagctga  660
cgatgcaagt tttttctgac cttaatgcaa gcaagtatca gatggctgaa tataggattt  720
caatctatgg gaggaagcaa agtgagtggg accaacttgc gagttggata gtaaacaatg  780
aattgtacag tgaaaatgtt gtttggttga ttcagattcc acgcttatat aacgtgtacc  840
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gctatgctaa cttgtacaca ctgaacaagc tgcgtgagtc aaaggggatg aatactatca 1140
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tcgctctg                                                          1988
```

<210> 20
<211> 345
<212> PRT
<213> Triticum aestivum

<400> 20

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Arg Cys Lys Phe Phe Ser Asp Leu Asn Ala Ser Lys Tyr Gln Met Ala
```

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  1               5                  10                  15

Glu Tyr Arg Ile Ser Ile Tyr Gly Arg Lys Gln Ser Glu Trp Asp Gln
             20                  25                  30

Leu Ala Ser Trp Ile Val Asn Asn Glu Leu Tyr Ser Glu Asn Val Val
         35                  40                  45

Trp Leu Ile Gln Ile Pro Arg Leu Tyr Asn Val Tyr Gln Gln Met Gly
     50                  55                  60

Ile Val Thr Ser Phe Gln Asn Leu Leu Asp Asn Ile Phe Leu Pro Leu
 65                  70                  75                  80

Phe Glu Val Thr Ile Asp Pro Ala Ser His Pro Gln Leu His Val Phe
                 85                  90                  95

Leu Lys Gln Val Val Gly Leu Asp Leu Val Asp Asp Glu Ser Lys Pro
            100                 105                 110

Glu Arg Arg Pro Thr Lys His Met Pro Thr Pro Glu Glu Trp Thr Asn
        115                 120                 125

Val Phe Asn Pro Ala Phe Ser Tyr Tyr Ala Tyr Tyr Cys Tyr Ala Asn
    130                 135                 140

Leu Tyr Thr Leu Asn Lys Leu Arg Glu Ser Lys Gly Met Asn Thr Ile
145                 150                 155                 160

Lys Phe Arg Pro His Ala Gly Glu Ala Gly Asp Val Asp His Leu Ala
                165                 170                 175

Ala Thr Phe Leu Leu Cys His Ser Ile Ser His Gly Ile Asn Leu Arg
            180                 185                 190

Lys Ser Pro Val Leu Gln Tyr Leu Tyr Tyr Leu Gly Gln Ile Gly Leu
        195                 200                 205

Ala Met Ser Pro Leu Ser Asn Asn Ser Leu Phe Leu Asp Tyr His Arg
    210                 215                 220

Asn Pro Phe Pro Met Phe Phe Gln Arg Gly Leu Asn Val Ser Leu Ser
225                 230                 235                 240

Thr Asp Asp Pro Leu Gln Ile His Leu Thr Lys Glu Pro Leu Val Glu
                245                 250                 255

Glu Tyr Ser Ile Ala Ala Ser Leu Trp Lys Leu Ser Ser Cys Asp Leu
            260                 265                 270

Cys Glu Ile Ala Arg Asn Ser Val Tyr Gln Ser Gly Phe Ser His Ala
        275                 280                 285

Leu Lys Ala His Trp Ile Gly Lys Asn Tyr Tyr Lys Arg Gly Pro Ser
    290                 295                 300

Gly Asn Asp Ile His Arg Thr Asn Val Pro Thr Ile Arg Ile Glu Phe
305                 310                 315                 320

Arg Asp Leu Ile Trp Arg Asp Glu Met Gln Leu Val Tyr Leu Asn Asn
                325                 330                 335
```

```
Val Ile Leu Pro Asp Glu Val Asp Gln
            340                 345
```

<210> 21
<211> 1447
<212> DNA
<213> Glycine max

<400> 21

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gcaccaggtt actattgacg tcgtttcgtt ttcatttaag aacaacggtt tttgacagag   60
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ggagtaatac atttactttg caatctcgag tccttcacac aaaatctttt caatacaata  180
aatcaaaatg tgtggtgaaa atatgaagca gttcctcaag gagctcccaa aatgtgagca  240
tcacattcat atcgaggggt ctctgtctcc agctctgctg ttcgaattgg caaagacaaa  300
caacatcgcc cttcccgact ctgcggctga tgcctctttc aaatctcccc aagaactcga  360
gtctcgctac gaacggttta cttctctcaa cgatttcctc cattactatt acattggcat  420
gtcagtgtta ataaaccctg ccgactatga aagcttggcc tatgaatatc tcacaaaagc  480
aaatcgcgac ggtgttcacc atgctgaaat tttcttcgat ccacaagcac acactgaacg  540
tggaattgca tacaacactg ttgttgaggg tctttcggct ggactaaagc gcgctgagaa  600
ggattttggt atcacctcaa aactcattct atgctttttg cgacacttgt cggctgagga  660
tgcaaaaact acatatcagg aagcggtttc gttgggtcac ttttcaaacg ggactgtagc  720
tgctattggc cttgatagca gtgaggtcgg tttcccacca gaaattttca gagagattta  780
tgaatctgca gaaaccaagg ggattcatcg aaccgctcac gctggtgagg aaggtgacac  840
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tggttacatt ttggataatt atcttgccgt tcaagaagca tttggcttaa atttaaagga 1140
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ttaataattg gcgctggact caagaacaat atctaaatga cacagaaaaa aaaaaaaaaa 1440
aaaaaaa                                                          1447
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<210> 22
<211> 355
<212> PRT
<213> Glycine max

<400> 22

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Met Cys Gly Glu Asn Met Lys Gln Phe Leu Lys Glu Leu Pro Lys Cys
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Glu His His Ile His Ile Glu Gly Ser Leu Ser Pro Ala Leu Leu Phe
             20                  25                  30

Glu Leu Ala Lys Thr Asn Asn Ile Ala Leu Pro Asp Ser Ala Ala Asp
         35                  40                  45

Ala Ser Phe Lys Ser Pro Gln Glu Leu Glu Ser Arg Tyr Glu Arg Phe
     50                  55                  60

Thr Ser Leu Asn Asp Phe Leu His Tyr Tyr Tyr Ile Gly Met Ser Val
 65                  70                  75                  80

Leu Ile Asn Pro Ala Asp Tyr Glu Ser Leu Ala Tyr Glu Tyr Leu Thr
                 85                  90                  95
```

```
Lys Ala Asn Arg Asp Gly Val His His Ala Glu Ile Phe Phe Asp Pro
            100                 105                 110

Gln Ala His Thr Glu Arg Gly Ile Ala Tyr Asn Thr Val Val Glu Gly
        115                 120                 125

Leu Ser Ala Gly Leu Lys Arg Ala Glu Lys Asp Phe Gly Ile Thr Ser
    130                 135                 140

Lys Leu Ile Leu Cys Phe Leu Arg His Leu Ser Ala Glu Asp Ala Lys
145                 150                 155                 160

Thr Thr Tyr Gln Glu Ala Val Ser Leu Gly His Phe Ser Asn Gly Thr
                165                 170                 175

Val Ala Ala Ile Gly Leu Asp Ser Ser Glu Val Gly Phe Pro Pro Glu
            180                 185                 190

Ile Phe Arg Glu Ile Tyr Glu Ser Ala Glu Thr Lys Gly Ile His Arg
        195                 200                 205

Thr Ala His Ala Gly Glu Glu Gly Asp Thr Ser Tyr Ile Ser Arg Ala
    210                 215                 220

Leu Asp Ile Cys Lys Val Glu Arg Ile Asp His Gly Ile Arg Leu Ala
225                 230                 235                 240

Glu Asp Glu Asn Leu Leu Lys Arg Val Ala Glu Gln Gly Thr Met Leu
                245                 250                 255

Thr Val Cys Pro Leu Ser Asn Val Arg Leu Arg Cys Val Glu Asn Val
            260                 265                 270

Gly Gln Leu Pro Ile Arg Lys Phe Leu Asp Gly Gly Ile Lys Phe Ser
        275                 280                 285

Ile Asn Ser Asp Asp Pro Ala Tyr Phe Gly Gly Tyr Ile Leu Asp Asn
    290                 295                 300

Tyr Leu Ala Val Gln Glu Ala Phe Gly Leu Asn Leu Lys Glu Trp Lys
305                 310                 315                 320

Tyr Ile Ala Thr Ser Ala Ile Glu Gly Ser Trp Cys Asp Asp Glu Arg
                325                 330                 335

Lys Ala Val Leu Leu Ser Lys Val Asp Ala Cys Ala Lys Lys Tyr Glu
            340                 345                 350

Ala Leu Leu
        355


<210> 23
<211> 600
<212> PRT
<213> Arabidopsis thaliana

<400> 23
Met Ile Cys Leu Glu Val Pro Thr Ser Asp Glu Val Glu Ala Tyr Lys
  1               5                  10                  15
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20 25 30

Thr Val Ala Pro Trp Glu Lys Glu Val Ile Ser Asp Pro Ser Thr Pro
35 40 45

Lys Pro Asn Thr Glu Pro Phe Ala His Tyr Pro Gln Gly Lys Ser Asp
50 55 60

His Cys Phe Glu Met Gln Asp Gly Val Val His Val Phe Ala Asn Lys
65 70 75 80

Asp Ala Lys Glu Asp Leu Phe Pro Val Ala Asp Ala Thr Ala Phe Phe
85 90 95

Thr Asp Leu His His Val Leu Lys Val Ile Ala Ala Gly Asn Ile Arg
100 105 110

Thr Leu Cys His Arg Arg Leu Val Leu Leu Glu Gln Lys Phe Asn Leu
115 120 125

His Leu Met Leu Asn Ala Asp Lys Glu Phe Leu Ala Gln Lys Ser Ala
130 135 140

Pro His Arg Asp Phe Tyr Asn Val Arg Lys Val Asp Thr His Val His
145 150 155 160

His Ser Ala Cys Met Asn Gln Lys His Leu Leu Arg Phe Ile Lys Ser
165 170 175

Lys Leu Arg Lys Glu Pro Asp Glu Val Val Ile Phe Arg Asp Gly Thr
180 185 190

Tyr Leu Thr Leu Arg Glu Val Phe Glu Ser Leu Asp Leu Thr Gly Tyr
195 200 205

Asp Leu Asn Val Asp Leu Leu Asp Val His Ala Asp Lys Ser Thr Phe
210 215 220

His Arg Phe Asp Lys Phe Asn Leu Lys Tyr Asn Pro Cys Gly Gln Ser
225 230 235 240

Arg Leu Arg Glu Ile Phe Leu Lys Gln Asp Asn Leu Ile Gln Gly Arg
245 250 255

Phe Leu Gly Glu Ile Thr Lys Gln Val Phe Ser Asp Leu Glu Ala Ser
260 265 270

Lys Tyr Gln Met Ala Glu Tyr Arg Ile Ser Ile Tyr Gly Arg Lys Met
275 280 285

Ser Glu Trp Asp Gln Leu Ala Ser Trp Ile Val Asn Asn Asp Leu Tyr
290 295 300

Ser Glu Asn Val Val Trp Leu Ile Gln Leu Pro Arg Leu Tyr Asn Ile
305 310 315 320

Tyr Lys Asp Met Gly Ile Val Thr Ser Phe Gln Asn Ile Leu Asp Asn
325 330 335

```
Ile Phe Ile Pro Leu Phe Glu Ala Thr Val Asp Pro Asp Ser His Pro
            340                 345                 350

Gln Leu His Val Phe Leu Lys Gln Val Val Gly Phe Asp Leu Val Asp
        355                 360                 365

Asp Glu Ser Lys Pro Glu Arg Arg Pro Thr Lys His Met Pro Thr Pro
    370                 375                 380

Ala Gln Trp Thr Asn Ala Phe Asn Pro Ala Phe Ser Tyr Tyr Val Tyr
385                 390                 395                 400

Tyr Cys Tyr Ala Asn Leu Tyr Val Leu Asn Lys Leu Arg Glu Ser Lys
                405                 410                 415

Gly Met Thr Thr Ile Thr Leu Arg Pro His Ser Gly Glu Ala Gly Asp
            420                 425                 430

Ile Asp His Leu Ala Ala Thr Phe Leu Thr Cys His Ser Ile Ala His
        435                 440                 445

Gly Ile Asn Leu Arg Lys Ser Pro Val Leu Gln Tyr Leu Tyr Tyr Leu
    450                 455                 460

Ala Gln Ile Gly Leu Ala Met Ser Pro Leu Ser Asn Asn Ser Leu Phe
465                 470                 475                 480

Leu Asp Tyr His Arg Asn Pro Phe Pro Val Phe Phe Leu Arg Gly Leu
                485                 490                 495

Asn Val Ser Leu Ser Thr Asp Asp Pro Leu Gln Ile His Leu Thr Lys
            500                 505                 510

Glu Pro Leu Val Glu Glu Tyr Ser Ile Ala Ala Ser Val Trp Lys Leu
        515                 520                 525

Ser Ala Cys Asp Leu Cys Glu Ile Ala Arg Asn Ser Val Tyr Gln Ser
    530                 535                 540

Gly Phe Ser His Ala Leu Lys Ser His Trp Ile Gly Lys Asp Tyr Tyr
545                 550                 555                 560

Lys Arg Gly Pro Asp Gly Asn Asp Ile His Lys Thr Asn Val Pro His
                565                 570                 575

Ile Arg Val Glu Phe Arg Asp Thr Val Trp Asn Glu Ile Tyr Leu Phe
            580                 585                 590

Phe Thr Gln Val Asn Phe Ser Leu
        595                 600
```

<210> 24
<211> 333
<212> PRT
<213> Escherichia coli

<400> 24

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Met Ile Asp Thr Thr Leu Pro Leu Thr Asp Ile His Arg His Leu Asp
  1               5                  10                  15
```

```
Gly Asn Ile Arg Pro Gln Thr Ile Leu Glu Leu Gly Arg Gln Tyr Asn
             20                  25                  30

Ile Ser Leu Pro Ala Gln Ser Leu Glu Thr Leu Ile Pro His Val Gln
         35                  40                  45

Val Ile Ala Asn Glu Pro Asp Leu Val Ser Phe Leu Thr Lys Leu Asp
     50                  55                  60

Trp Gly Val Lys Val Leu Ala Ser Leu Asp Ala Cys Arg Arg Val Ala
 65                  70                  75                  80

Phe Glu Asn Ile Glu Asp Ala Ala Arg His Gly Leu His Tyr Val Glu
                 85                  90                  95

Leu Arg Phe Ser Pro Gly Tyr Met Ala Met Ala His Gln Leu Pro Val
            100                 105                 110

Ala Gly Val Val Glu Ala Val Ile Asp Gly Val Arg Glu Gly Cys Arg
        115                 120                 125

Thr Phe Gly Val Gln Ala Lys Leu Ile Gly Ile Met Ser Arg Thr Phe
    130                 135                 140

Gly Glu Ala Ala Cys Gln Gln Glu Leu Glu Ala Phe Leu Ala His Arg
145                 150                 155                 160

Asp Gln Ile Thr Ala Leu Asp Leu Ala Gly Asp Glu Leu Gly Phe Pro
                165                 170                 175

Gly Ser Leu Phe Leu Ser His Phe Asn Arg Ala Arg Asp Ala Gly Trp
            180                 185                 190

His Ile Thr Val His Ala Gly Glu Ala Ala Gly Pro Glu Ser Ile Trp
        195                 200                 205

Gln Ala Ile Arg Glu Leu Gly Ala Glu Arg Ile Gly His Gly Val Lys
    210                 215                 220

Ala Ile Glu Asp Arg Ala Leu Met Asp Phe Leu Ala Glu Gln Gln Ile
225                 230                 235                 240

Gly Ile Glu Ser Cys Leu Thr Ser Asn Ile Gln Thr Ser Thr Val Ala
                245                 250                 255

Glu Leu Ala Ala His Pro Leu Lys Thr Phe Leu Glu His Gly Ile Arg
            260                 265                 270

Ala Ser Ile Asn Thr Asp Asp Pro Gly Val Gln Gly Val Asp Ile Ile
        275                 280                 285

His Glu Tyr Thr Val Ala Ala Pro Ala Ala Gly Leu Ser Arg Glu Gln
    290                 295                 300

Ile Arg Gln Ala Gln Ile Asn Gly Leu Glu Met Ala Phe Leu Ser Ala
305                 310                 315                 320

Glu Glu Lys Arg Ala Leu Arg Glu Lys Val Ala Ala Lys
                325                 330
```